



west virginia department of environmental protection

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Earl Ray Tomblin, Governor
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MEMORANDUM

To: Patty Hickman

From: Lawrence P. Sirinek, Ph.D. *LPS*

Date: March 14, 2013

cc: Don Martin

Subject: Sunny's One Stop
Tetrachloroethene vapor in soil gas

As we have previously discussed, this site is currently undergoing evaluation as a LUST site under provisions of the Uniform Environmental Covenant Act (UECA). As part of their investigation, samples of soil and groundwater were initially evaluated for the relevant constituents including: BTEX and MTBE.

Based upon the reported concentrations of these constituents, samples of soil gas were recovered and assessed for total VOCs, in order to determine their potential to migrate from contaminated groundwater in sufficient concentrations to adversely impact indoor air of the overlying commercial structure. For reasons not provided in the risk assessment, samples were collected over 2 rounds of sampling (August 27, 2010 and May 9, 2012). On both occasions, tetrachloroethene (PERC) was detected at 2 of the 3 sample locations. PERC concentrations and USEPA vapor intrusion screening levels (VISLs) for soil gas are indicated below.

Sample Location	Date	[PERC] ($\mu\text{g}/\text{m}^3$)	Res VISL ($\mu\text{g}/\text{m}^3$)	Comm VISL ($\mu\text{g}/\text{m}^3$)
SG-1	8/27/2010	<1.4	94	1800
	5/9/2012	<1.4		
SG-2	8/27/2010	3.5		
	5/9/2012	16		
SG-3	8/27/2010	1050		
	5/9/2012	3700		

With regard to the potential vapor intrusion impacts, additional information is needed before a more definitive determination of potential risk to indoor workers can be made, and that is not the purpose of this communication. Rather, my concern is that increasing concentrations of PERC are accumulating in soil gas, and, while the original source of the PERC is unknown, it is quite

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likely that it is migrating as a groundwater plume at concentrations well above its drinking water standard (MCL) of 5 µg/L.

Please be advised that this site is located in a Wellhead Protection Area and is within 1 mile of a municipal well field. For this reason, I believe that further investigation of PERC contamination of groundwater at this location is clearly warranted. Please contact me should you require additional information.